

A NEW *NEOPANORPA* (MECOPTERA: PANORPIDAE) FROM LAOS¹

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Although Mecoptera, chiefly of the genus *Neopanorpa*, have been recorded from numerous localities in Vietnam to the east and Thailand to the west, there have been no species reported from either Laos or Cambodia, in central Indo-China (see distribution map, Byers, 1965:743, Fig. 113). I have long been aware of certain undescribed species from Laos (Byers, 1965:705), but the species described below is different from those seen earlier, of which only females had been collected. It is certain that at present our knowledge of the Mecoptera of the mountainous interior of Indo-China is only fragmentary.

Following is a description of the first species of *Neopanorpa* and of the order Mecoptera recorded from Laos. For the opportunity to study these specimens, I am indebted to the collector, Mr. Gary L. Peters of Oregon State University.

Neopanorpa globulifera, new species

Description based on 3 ♂, 1 ♀ pinned, 1 ♂, 2 ♀ preserved in alcohol. For some common characters of the genus, see Byers, 1965:706.

Head.—Dorsum of head shiny black from upper edges of antennal sockets to neck, continued as narrow black line along lower edge of each eye. Rostrum dark yellowish brown to brown, slightly darkened at tip of labrum, paler around anterior tentorial pits; palps brown. Antennal scape pale yellowish brown, pedicel brown, flagellum blackish brown, with 43 flagellomeres (♂), each slightly shorter than those before it, apical segments about half as long as those near base.

Thorax.—Pronotum blackish brown, slightly paler at sides and along posterior margin; 2-3 marginal setae at each side of broad, shallow median emargination in two specimens (absent in others but may be broken off). Mesonotum black on anterior half, with broad median black stripe extending backward over scutellum and metanotum; posterolateral corners of mesonotum and sides of metanotum sordid yellowish brown. Pleural surfaces, coxae, legs and basitarsi sordid yellowish brown, distal tarsomeres grading through brown to dark brown.

Wings faintly tinged with brown, iridescent; markings smoky brown. Apical band entire but ending posteriorly at vein M_1 or near it, with small proximal spur into cell 2nd R_5 in holotype and one female paratype. Ptero-

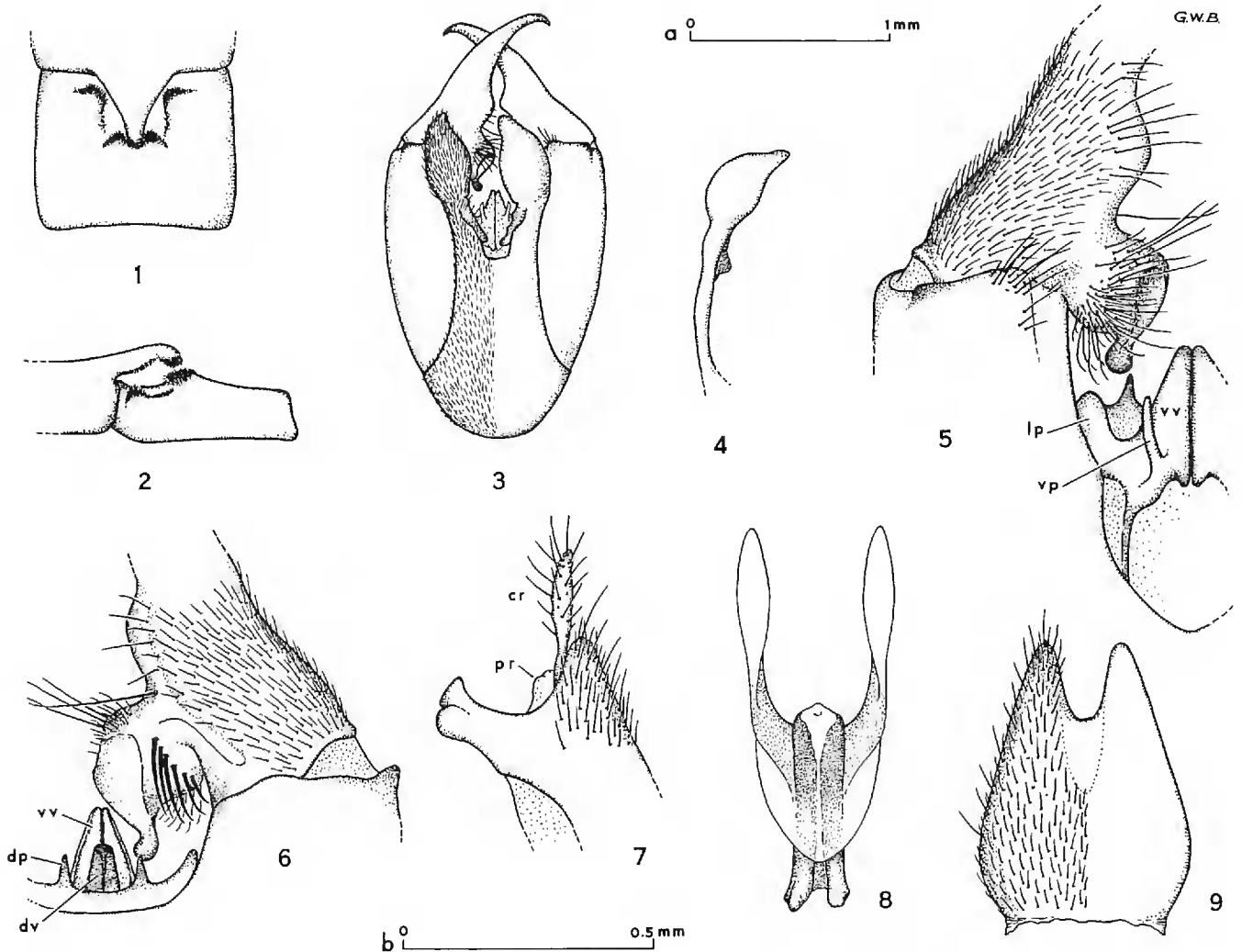
stigmal band entire, forked posteriorly in front wing, distal branch of fork faint or absent in hind wing. Basal band represented by transverse spot over base of Rs to M and larger, more distal spot from M to hind margin of wing. Marginal spot small, ending anteriorly at vein R_1 .

Abdomen of male.—Terga 2–5 blackish brown; corresponding sterna pale yellowish brown; segment 6 mostly blackish brown, grading into pale brown near posterior margin; segments 7–9 dark yellowish brown except hypovalves of ninth sternum light brown, dististyles brown with darker bases. Posterior process of third tergum (Figs. 1, 2) roughly triangular, extending about half way across tergum 4, apex slightly prolonged, with downcurved terminal and lateral setae. Beneath process, on tergum 4, a smooth pale, shallow depression surrounded by short, black setae. Hypovalves (Figs. 3, 4) expanded near mid-length, with somewhat narrowed tips and each with mesal lobe near base. Ninth tergum slightly widened before shallowly emarginate, nearly truncate apex; a smooth, strongly sclerotized (not darkened), subapical process curved inward (ventrad) from each side around proctiger (Fig. 7). Outer surface of dististyle shallowly indented (Figs. 3, 5), covered with short setae; longer, more sparse setae on mesal surfaces; basal lobe concave, cup-like, with pendent process subspherical in shape, smooth, densely sclerotized. Dorsal surface of basal lobe of dististyle bearing vertical row of six black spines (Fig. 6). Aedeagus with pale ventral valves longer than darkly sclerotized dorsal valves and thus concealing them in ventral aspect; ventral parameres slender, pale, weakly sclerotized, arising and diverging from lower corners of ventral valves; dorsal parameres slender, acutely tipped; lateral processes conspicuous, rounded.

Abdomen of female.—Terga 2–6 dark brown to blackish brown, except posterior margin of tergum 6 grading into light brown; sterna dull light brown. Apical segments dark yellowish brown, cerci black. Subgenital plate of sternum 8 deeply notched posteriorly; apical setae not conspicuous (Fig. 9). Axial portion of genital plates approximately 3.5 times as long as wide, with projecting but not divergent anterior apodemes (Fig. 8); arms of distal plate spatulate, twisted at base; entire structure flattened, thus thin in lateral aspect.

Body length.—Male, about 11 to 12 mm (holotype 11 mm); female about 10 to 11 mm (allotype 11 mm). Length of fore wing, male, 11.2 to 12.3 mm (holotype 12.2 mm); female, 11.9 to 12.6 mm (allotype 12.6 mm).

Types.—Holotype, male, Sam Thong, Xieng Khouang Province, 90 miles (145 km) northeast of Vientiane, Laos, 12 May 1968, collected by Gary L. Peters. Allotype and paratypes, same locality but 9 May 1968 (1 ♂), 25 June 1968 (1 ♂, 1 ♀), 28 July 1968 (allotype ♀), 31 July 1968 (1 ♀, damaged by psocids), 1 May 1969 (1 ♂, callow). Holotype, allotype and most paratypes are in the collection of Oregon State University, Corvallis, Oregon. One male, one female paratypes in the Snow Entomological Museum, University



Figs. 1-9. *Neopanorpa globulifera*, new species. Figs. 1-7. Male paratype. Figs. 8, 9. Female allotype. Fig. 1. Notal organ, abdominal terga 3 and 4, dorsal aspect. Fig. 2. Same, left lateral aspect. Fig. 3. Genital bulb, ventral (posterior) aspect, hairs mostly omitted except on left hypovalve and left side of ninth sternum. Fig. 4. Right hypovalve, right lateral aspect. Fig. 5. Base of left dististyle, apex of basistyle, and most of aedeagus, ventral aspect; lp—lateral process, vp—ventral paramere, vv—ventral valve. Fig. 6. Same, dorsal (anterior) aspect; dp—dorsal paramere, dv—dorsal valve, vv—ventral valve. Fig. 7. Ninth abdominal tergum and proctiger, right lateral aspect; cr—cercus, pr—proctiger (tenth segment). Fig. 8. Genital plates, ventral aspect. Fig. 9. Subgenital plate of eighth sternum, ventral aspect. Scale a, Figs. 1-4; scale b, Figs. 5-9.

of Kansas, Lawrence, Kansas. The type locality is at approximately 19°12'N, 102°54'E, at an elevation of 1170 m (3800 ft). In 1968, it was a village and military airbase. Note: this is not the town of Sam Thong, or Ban Sam Thong, which is more likely to appear on maps of Laos; that town is at 19°51'N, 103°51'E. The scorpion-flies were found on upper surfaces of leaves of shrubs and herbaceous undergrowth 3-5 feet high at the edge of a forest.

Neopanorpa globulifera most closely resembles *N. parvula* Willmann (1976) of northern Vietnam but does not much resemble any other species. It differs from *parvula* in wing pattern and several details of the male genital bulb; the female of *parvula* is not known. *N. parvula* has only one small

spot in the fore wing proximal to the Ptb, a remnant of the basal band between Cu_1 and Cu_2 . Willmann illustrated the basal lobe of the dististyle in *parvula* with a very irregular pendent process, clearly not with a sub-spherical termination as in *globulifera*, and he neither showed nor described thick, black setae on the dorsal surface of the basal lobe (cf. his Fig. 10). He found no ventral parameres in *parvula*, and the dorsal parameres while acutely tipped are broadly triangular, not slender as in *globulifera*. There are minor differences in the hypovalves, but these are difficult to describe and can best be appreciated by comparison of Willmann's Figs. 9 and 10 with Figs. 3 and 4 of *globulifera*.

In my key to *Neopanorpa* of Indo-China (Byers, 1965), males of *globulifera* will be identified as *N. burmana*. The two species are similar in wing pattern, structure of the notal organ, and in the thick, black setae on the basal lobe of the dististyle, of which there are only two in *burmana*. In the structure of the aedeagus and hypovalves, however, they are not much alike. The female of *burmana* is unknown.

The genital plates and subgenital plate of the female of *globulifera* are similar to those of *N. byersi* Webb and Penny (1979), a species from northern Thailand that is otherwise decidedly different from *globulifera*. Most regional species have the axial portion of the genital plates either very short and lacking anterior apodemes, or much elongated and longer than the arms of the distal plate.

The species takes its name from the shape of the pendent process of the basal lobe of the dististyle (Latin *globulus*, a little ball + *fero*, to bear or carry).

Literature Cited

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Webb, D. W., and N. D. Penny. 1979. *Neopanorpa byersi* (Mecoptera: Panorpidae), a new species from Thailand. *Pacific Insects*, 20:63-66.
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Footnote

- ¹ Contribution no. 1772 from the Department of Entomology, The University of Kansas, Lawrence 66045.